**K-5 Math Lesson Plan**

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| **Teacher: Rickard** | | | **Grade: 5** | | | **Date(s)**: August 2012 |
| **Unit Title:**   |  | | --- | | Unit 1- Understand the Decimal Place Value System | | | | | Corresponding Unit Task:   |  |  | | --- | --- | | |  | | --- | | “2012 Summer Olympics – Who Gets the Gold?” | | | (Teach prior to task 3) | | | |
| **Essential Question(s):**  How do I compare decimals to the thousandths? | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher:**  White board, markers, sample take out menus,  a set of 40 index cards with decimal numbers on them for “Dueling Decimals” | | **Student:**  Pencil, math journal | | | Thousands, hundreds, tens, ones, tenths, hundredths, thousandths, compare, < less than, greater than >, equal to =  Optional words: ascending order, descending order | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  √ 1. Make sense of problems and persevere in solving them.  √ 2. Reason abstractly and quantitatively.  √ 3. Construct viable arguments and critique the reasoning of others.  √ 4. Model with mathematics.  √ 5. Use appropriate tools strategically.  √ 6. Attend to precision.  √ 7. Look for and make use of structure.  √ 8. Look for and express regularity in repeated reasoning. | **Common Core State Standards:**   |  | | --- | | **5.NBT.3b**  Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.  (Correlates to NCSCOS Math Objective 1.01) | | | | | | |
| I Can Statement(s):   |  |  | | --- | --- | | * I can use the symbol (=) when comparing numbers. * I can use the symbol (<) when comparing numbers. * I can use the symbol (>) when comparing numbers  |  | | --- | |  | |  |  | | --- | |  | | | | | | |
| **Activating Strategy/Hook:** (How will students become cognitively engaged and focused?)  Tell your students that they are going to review expanded form, word form (number name), and standard form (base-ten numerals).  Put the following on the board and have the students copy it in their math journal:  8 x 100,000 + 7 x 1000 + 4 x 100 + 5 x (1/10) + 4 x (1/1000) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  What is the number represented above? 807,400.504  What form did we write this number in? Standard form (base-ten numerals)  What other form can we write this number in? word (number name)  Let’s do that now. Write the number in word form. eight hundred seven thousand four hundred and five hundred four thousandths  Today, we are going to build on the skills that we already know, and learn how to compare decimals to the thousandths. | | | | | |
| **Teacher Directed:**  Let’s review (Display the following problem):  Joshua ran 1.78 miles. Matthew ran 1.8 miles. Who ran the greatest distance? Matthew  How do we know? Review place value from the ones to the hundredths. Skills previously taught in 4th grade.  **Begin discussion:**  How can we compare decimals?  **One way is with a number line.**  Draw a number line on the board from 0 to 1.  Labeling these points: 0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0  Label 0.2 as point A and 1.0 as point B.  Compare point A to point B. Which is greater? 1.0  How can you write that 1.0 is greater than 0.2? 1.0 > 0.2  How does a number line help you see which number is greater? answers vary  **Another way is to use place value.**   1. Line up the decimal points. 2. Compare the digits in the greatest place. 3. Continue comparing until the digits are different.   Let’s do an example: 3.62 compared to 3.64  3.62  3.64  The ones digit and the tenths digits are the same.  In the hundredths place, 2 < 4. So 3.62 < 3.64  Remind the students that we always read from left to right. Practice reading orally. | | | | | |
| **Guided Practice: (To be completed in students’ math journals)**  Next, have your students draw a number line in their journal from 1 to 2.  Labeling the following points: 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.0  Label 1.4 as point C and 2.0 as point D.  Have your students answer the following questions in their journal and share their answers with their shoulder partner.  Compare point C to point D. Which is the least? C 1.4  How can you write that 1.4 is less than 2.0? 1.4 < 2.0  How does a number line help you see which number is greater? Explain to your shoulder partner.  **Now let’s compare another way using place value, write these numbers in your journal:**  **32.451**  **32. 45**  **324.5**  **Remember to :**   1. Line up the decimal points. 2. Compare the digits in the greatest place. 3. Continue comparing until the digits are different.   Write these numbers in ascending order, and then compare the following using <, >, or =.:  32.451 \_\_\_\_\_ 32.45 >  32.45 \_\_\_\_\_ 324.5 <  32.451 \_\_\_\_\_ 324.5 <  Now, we are going kick it up a notch! You are going to work independently using the following clues. | | | | | |
| **Independent Practice:**  We are going to use some clues to create some special numbers. Place these clues and blanks on the board and have students solve and then compare the numbers using <, >, or =.  **Problem 1:**   1. The greatest possible decimal using each of the decimals 5-9 once:   \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ . \_\_\_\_\_ \_\_\_\_\_ 987.65   1. The greatest possible decimal that will fit in the blanks:   \_\_\_\_\_\_ \_\_\_\_\_ . \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ 9 9.999  987.65< 99.999  **Problem 2:**   1. The least possible decimal number greater than zero**:**   **\_\_\_\_\_ . \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_** 0.001   1. A decimal equivalent to 0.77:   \_\_\_\_\_ . \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_ 0.770  0.001< 0.770  **Problem 3:**   1. A decimal equivalent to 34.60:   \_\_\_\_\_ \_\_\_\_\_ . \_\_\_\_\_ 34.6   1. A decimal with 2 fewer in the ones place than 34.60:   \_\_\_\_\_ \_\_\_\_\_. \_\_\_\_\_ \_\_\_\_\_ 32.60  34.6 > 32. 60  **To save time you can copy the “Independent Practice” and the “Ticket out the Door” into a word document and give your students a copy.** | | | | | |
| **Closing/Summarizing Strategy:**  **“**Ticket Out The Door” in the their journal have students write the above answers for problems A – F in ascending or descending order.  Ascending:  0.001  0.770  32.60  34.6  99.999  987.65 | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| Have students solve the following riddles:  I am a 3-digit decimal whose digit in the tenths place is 4 times the digit in the hundredths place and 4 more than the digit in the thousandths place.  What number am I? 0.824  I am a 3-digit decimal whose digit in the tenths place is 3 times the digit in the hundredths place and 3 less than the digit in the thousandths place.  What number am I?  Possible sample answer: 0.629  Now compare your two answers using <, >, or =.  0.848 > 0.629 | | | Review symbols: < less than, greater than >, and equal to =.  Use plastic coins and paper money to model how we use decimals in the real world. Let students solve problems using dollar bills, dimes, and pennies.  Put students in pairs and give each pair a take-out menu. Let each student pretend to order from the menu finding the total cost of their pretend meal. Then have the students in pairs compare their meal cost using <, >, or =.  Have them prove their answers using models, numbers, words, or pictures, and practice reading their answers orally. | | | Use plastic coins and paper money to model how we use decimals in the real world. Let students solve problems using dollar bills, dimes, and pennies.  Example problem:  Juan ordered soup for $ 2.95 and a drink for $.75. Sue Li ordered a drink for $1.25 and a hotdog for $1.50. Who spent the most money?  Juan  Have them prove their answer using models, numbers, words, or pictures, and practice reading their answers orally.  Compare your answers using <,>, or =.  $3.70 > $2.75 |
| **Assessment(s):**   * Collect student journals and check “Ticket out the Door” for correctness. * Play “Dueling Decimals” (Similar to the card game “War”)   This should be modeled first and then placed in a math station.  Directions: A student deals out all the cards facedown to each student in the group. Each student turns a card over and places it in the center of the table. The student with the greatest number wins the cards in the center of the table. The activity continues until one person has all the cards. The teacher will need to observe the students to be sure they understand the concept of “The Greatest Decimal”.  (The 40 cards are teacher made with the teacher choosing the decimals on them based on their students’ abilities.) | | | | | | |
| * **Teacher Reflection:** (Next steps?) What went well? * Student understandings/misconceptions * Specific notes about students’ thinking * What do I need to reteach/review tomorrow or in the future? * New ideas or changes for next time | | | | | | |